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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
TRUONG, THANHNGA B	

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 06/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/078,975	BENTVELSEN, PETRUS HENRICUS CORNELIUS	
	Examiner	Art Unit	
	Thanhnga B. Truong	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,18 and 19* is/are rejected.

7)☒ Claim(s) *16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's amendment filed on May 30, 2006 has been carefully considered. Examiner agrees that Hagen does teach a method of embedding a secondary signal of a secondary channel in the bit stream of a primary signal of a primary channel; however, Hagen is silent on the capability of detecting a secondary signal of a secondary channel in the bit stream of a primary signal of a primary channel. Thus the finality of the office action mailed March 28, 2006 is now withdrawn. Upon an in-depth review and further search, another ground of rejection is applied herein. Claims 1-19 are pending.

Claim Objections

2. Claim 18 is objected to because of the following informalities:

a. *Referring to claim 18:*

i. Applicant discloses the method of claim 5, claim 4, wherein the channel clock of the primary channel is modulated with a phase or frequency modulated sine wave. It is not clear that claim 18 is depended on which claim. Examiner is assuming that claim 18 is depended on claim 4. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), and further in view of Taubman (US 6,778,709 B1).

a. *Referring to claim 1:*

i. Hagen teaches a method of embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel (column 2, lines 6-14 of Hagen) comprising:

(1) distorting the bitstream of the primary signal by a particular distortion; and outputting the bitstream of the primary signal having the distorted bitstream, wherein the secondary signal is represented by the particular distortion **[i.e., Hagen discloses embedded coding, the encoder produces a composite bit stream made up out of two or more separate bit streams: a primary bit stream which contains a basic description of the signal, and one or more auxiliary bit streams which contain information to enhance the basic signal description (column 2, lines 6-11 and also referring to Figure 1 of Hagen)].**

ii. Although Hagen teaches the invention allows the correction of distortion resulting from the primary encoding/decoding process for primary coders, which attempt to model the signal waveform **(column 5, lines 33-35 of Hagen),** Hagen is silent on the capability of showing the bitstream of the primary signal is distorted and then outputting the bitstream of the primary signal. On the other hand, Taubman teaches:

(1) Reference is now made to Figure 2, which illustrates a method of generating a layered embedded bitstream from a subband decomposition. In general, each subband is partitioned into a plurality of blocks (step 102); blocks of HL subbands are transposed (step 104), and the blocks of each subband are coded (steps 106 to 112). The blocks of each subband are coded independently of each other, that is, without using any information from the other blocks. The coding steps produce an individual block bitstream for each block. While the blocks are being coded, distortion rate data is being accumulated for each block (step 114). The distortion rate data may be used later to determine candidate truncation points for each block bitstream **(column 3, lines 47-60 of Taubman).**

iii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the invention of Hagen with the teaching of Taubman since the ability to strip bits from an existing bit stream while maintaining the ability to reconstruct the speech signal (albeit at a lower accuracy) is an especially useful type of bit rate flexibility **(column 1, lines 25-29 of Hagen).**

iv. The ordinary skilled person would have been motivated to:

(1) have modified the invention of Hagen with the teaching of Taubman because high quality coding of acoustical signals at low bit rates is of pivotal importance to communications systems such as mobile telephony, secure telephone, and voice storage **(column 1, lines 10-12 of Hagen).**

b. *Referring to claims 2 and 3:*

i. Hagen further teaches:

(1) wherein distorting the bitstream of the primary signal comprises inserting local phase errors in the bitstream of the primary signal; wherein the absolute value of the phase error is chosen such that it is smaller than the channel clock period of the primary channel **[i.e., Hagen's invention also provides the encoding of the adaptive equalization operator, while allowing for some coding error, by means of a bit stream which may be separable from the bit stream of the primary coding algorithm (column 5, lines 8-12 of Hagen)].**

c. *Referring to claim 4:*

i. Hagen teaches:

(1) wherein low frequency variations are introduced into the channel clock of the primary channel **[i.e., Figure 5 illustrates one example of the estimator 33 of Figure 3. The target signal blocks and the primary coded signal blocks are pairwise Fourier transformed at 56 (other suitable frequency domain transforms may also be used) to produce the signals B(n) and BR(n), which are applied to a dividing apparatus 50 including a divider 51 and a simplifier 53. B(n) is divided by BR(n) at divider 51 to produce T(n), and the phase information is discarded by simplifier 53, so that only the magnitude information .vertline.T(n).vertline. is provided to the encoder 35 (column 8, lines 56-65 of Hagen)].**

d. *Referring to claim 8:*

i. This claim consists an apparatus for embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel to implement claim 1 and is rejected with the same rationale applied against claim 1 above.

5. Claims 11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), in view of Taubman (US 6,778,709 B1), and further in view of Maertens (US 5,727,036).

a. *Referring to claim 11:*

i. Hagen teaches a method for detecting a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal **(column 2, lines 6-14 of Hagen).**

ii. Although Hagen teaches the invention allows the correction of distortion resulting from the primary encoding/decoding process for primary coders, which attempt to model the signal waveform **(column 5, lines 33-35 of Hagen),** Hagen is silent on the capability of showing the bitstream of the primary signal is distorted and then outputting the bitstream of the primary signal. On the other hand, Taubman teaches:

(1) Reference is now made to Figure 2, which illustrates a method of generating a layered embedded bitstream from a subband decomposition. In general, each subband is partitioned into a plurality of blocks (step 102); blocks of HL subbands are transposed (step 104), and the blocks of each subband are coded (steps 106 to 112). The blocks of each subband are coded independently of each other, that is, without using any information from the other blocks. The coding steps produce an individual block bitstream for each block. While the blocks are being coded, distortion rate data is being accumulated for each block (step 114). The distortion rate data may be used later to determine candidate truncation points for each block bitstream **(column 3, lines 47-60 of Taubman).**

iii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the invention of Hagen with the teaching of Taubman since the ability to strip bits from an existing bit stream while maintaining the ability to reconstruct the speech signal (albeit at a lower accuracy) is an especially useful type of bit rate flexibility **(column 1, lines 25-29 of Hagen).**

iv. The ordinary skilled person would have been motivated to:

(1) have modified the invention of Hagen with the teaching of Taubman because high quality coding of acoustical signals at low bit rates is of pivotal importance to communications systems such as mobile telephony, secure telephone, and voice storage **(column 1, lines 10-12 of Hagen).**

v. The combination of teaching between Hagen and Taubman teaches the claimed subject matter. However, they are silent on the capability of detecting the distortion of the bit stream. On the other hand, Maertens teaches:

(1) With the improved high bit rate start code searching architecture/circuit 10, the functionality and performance of the entire video display system is increased. The ability to quickly and systematically detect the start codes also improves error recovery. If an error is detected during the decoding of the MPEG bitstreams, the next start code needs to be quickly searched and detected. If not, the delay increases the loss of data in the bitstreams after the occurrence of the error **(column 11, lines 17-24 of Maertens).**

vi. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the combination of teaching between Hagen and Taubman with the teaching of Maertens to detect start codes at any time and in any position of the bitstreams with a video display system **(column 4, lines 10-11 of Maertens).**

vii. The ordinary skilled person would have been motivated to:

(1) have modified the combination of teaching between Hagen and Taubman with the teaching of Maertens for improving error recovery in a video display system **(column 4, lines 15-16 of Maertens).**

b. *Referring to claim 13:*

i. This claim consists an apparatus for detecting a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal to implement claim 11 and is rejected with the same rationale applied against claim 11 above.

6. Claims 5, 9, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), in view of Taubman (US 6,778,709 B1), and further in view of Chao et al (US 5,204,882).

a. *Referring to claim 5:*

i. The combination of teaching between Hagen and Taubman teaches a method of embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel (column 2, lines 6-14 of Hagen), however, they are silent on the capability of using a phase locked loop with the primary signal for synchronization. On the other hand, Chao teaches:

(1) The rate at which information is transferred from the receive-buffer to the receiving customer premises equipment is averaged by the digital phase locked loop. In particular, the phase detector of the digital phase locked loop monitors the occupancy level of the receive-buffer and adjusts the output signal of the voltage controlled oscillator to maintain the occupancy of the receive-buffer within a certain range so as to average the rate at which data is transferred to the customer premises equipment **(column 2, lines 43-52 of Chao).**

ii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the combination of teaching between Hagen and Taubman with the teaching of Chao since a phase locked loop generates a

local clock signal in the form of a read signal which controls the rate at which the received data is read out of the buffer **(column 10, lines 16-20 of Chao).**

iii. The ordinary skilled person would have been motivated to:

(1) have modified the combination of teaching between Hagen and Taubman with the teaching of Chao because the read signal generated by the phase locked loop is proportional to the average rate at which timing cells are received at the receiver **(column 10, lines 19-21 of Chao).**

b. *Referring to claim 9:*

i. The combination of teaching between Hagen and Taubman teaches an apparatus of embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel (column 2, lines 6-14 of Hagen) and Chao further teaches:

(1) wherein the distortion means comprises a buffer **[i.e., referring to Figure 3 of Chao, element 74 and 82)]** for buffering the bitstream of the primary signal and an encoder for generating a distortion signal and modulating the buffered bitstream of the primary signal before inputting it to the output means **[i. e., a bit stream 36 output from the encoder 35 can be combined with bit stream 38 by a conventional combining operation (see Figure 3A) to produce a composite bit stream that passes through the transmission medium 31. The composite bit stream is received at the receiver and separated into its constituent signals by a conventional separating operation (see Figure 3B). The bit stream containing the information for reconstructing the primary coded signal is input to the reconstructor 13, and the bit stream containing the equalization information is input to the decoder 37 (column 7, lines 4-13 of Chao)].**

c. *Referring to claim 18:*

i. This claim has limitations that is similar to those of claim 5, thus it is rejected with the same rationale applied against claim 5 above.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), in view of Taubman (US 6,778,709 B1), in view of Maertens (US 5,727,036), and further in view of Chao et al (US 5,204,882).

a. *Referring to claim 12:*

i. The combination of teaching between Hagen, Taubman, and Maertens teaches a method for detecting a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal (column 2, lines 6-14 of Hagen), however, they are silent on the capability of using a phase locked loop circuit for detecting distortion. On the other hand, Chao teaches:

(1) The rate at which information is transferred from the receive-buffer to the receiving customer premises equipment is averaged by the digital phase locked loop. In particular, the phase detector of the digital phase locked loop monitors the occupancy level of the receive-buffer and adjusts the output signal of the voltage controlled oscillator to maintain the occupancy of the receive-buffer within a certain range so as to average the rate at which data is transferred to the customer premises equipment **(column 2, lines 43-52 of Chao).**

ii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the combination of teaching between Hagen, Taubman, and Maertens with the teaching of CHao since a phase locked loop generates a local clock signal in the form of a read signal which controls the rate at which the received data is read out of the buffer **(column 10, lines 16-20 of Chao).**

iii. The ordinary skilled person would have been motivated to:

(1) have modified the combination of teaching between Hagen, Taubman, and Maertens with the teaching of Chao because the read signal generated by the phase locked loop is proportional to the average rate at which timing cells are received at the receiver **(column 10, lines 19-21 of Chao).**

8. Claims 6-7, 10, 15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), in view of Taubman (US 6,778,709 B1), and further in view of Van Wie et al (US 6,240,185 B1).

a. *Referring to claim 6:*

i. The combination of teaching between Hagen and Taubman teaches a method of embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel (column 2, lines 6-14 of Hagen) and Hagen further teaches:

(1) wherein the bitstream of the primary signal of the primary channel consists of a stream of bits for being recorded on an optical data carrier (e.g., a CD or a DVD), in the form of lands and marks **[i.e., referring to Figure 3, the transmission medium 31 corresponds to the channel 12 of Figure 1 (column 6, lines 54-55 of Hagen)].**

ii. Though the combination of teaching between Hagen and Taubman does not explicitly disclose the transmission medium including an optical carrier, Van Wie teaches:

(1) For example, it is generally possible for someone to make an analog recording of program material initially delivered in digital form. Some analog recordings based on digital originals are of quite good quality. For example, a Digital Versatile Disk ("DVD") player may convert a movie from digital to analog format and provide the analog signal to a high quality analog home VCR. The home VCR records the analog signal. A consumer now has a high quality analog copy of the original digital property. A person could re-record the analog signal on a DVD-R (a Digital Versatile Disk appliance and media supporting both read and write operations). This recording will in many circumstances have substantial quality--and would no longer be subject to "pay per view" or other digital rights management controls associated with the digital form of the same content **(column 2, lines 37-51 of Van Wie).**

iii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the combination of teaching between Hagen and Taubman with the teaching of Van Wie since analog formats will be with us for a long time to come, rightsholders such as film studios, video rental and distribution companies, music studios and distributors, and other value chain participants would very much like to have significantly better rights management capabilities for analog

film, video, sound recordings and other content. Solving this problem generally requires a way to securely associate rights management information with the content being protected **(column 2, lines 52-60 of Van Wie).**

iv. The ordinary skilled person would have been motivated to:

(1) have modified the combination of teaching between Hagen and Taubman with the teaching of Van Wie because persistent association of the commerce and/or rights management controls with content from one end of a distribution system to the other--regardless of the number and types of transformations between signaling formats (for example, analog to digital, and digital to analog) **(column 4, lines 1-6 of Van Wie).**

b. *Referring to claim 7:*

i. the combination of teaching between Hagen and Taubman teaches embedded coding, the encoder produces a composite bit stream made up out of two or more separate bit streams: a primary bit stream which contains a basic description of the signal, and one or more auxiliary bit streams which contain information to enhance the basic signal description **(column 2, lines 6-11 and also referring to Figure 1 of Hagen)**. However, they are silent about:

(1) wherein the secondary signal comprises a copy protection key or a digital right.

ii. Whereas, Van Wie teaches:

(1) Electronic steganographic techniques can be used to encode a rights management control signal onto an information signal carried over an insecure communications channel. Steganographic techniques ensure that the digital control information is substantially invisibly and substantially indelibly carried by the information signal. These techniques can provide end-to-end rights management protection of an information signal irrespective of transformations between analog and digital **(see Van Wie's abstract).**

iii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) combine Van Wie's digital right management control information into Hagen's modified system by providing "end to end" secure rights management protection allowing content providers and rights holders to be sure their content will be adequately protected--irrespective of the types of devices, signaling formats and nature of signal processing within the content distribution chain **(column 3, lines 41-46 of Van Wie)**.

iv. The ordinary skilled person would have been motivated to:

(1) combine Van Wie's digital right management control information into Hagen's modified system since this "end to end" protection also allows authorized analog appliances to be easily, seamlessly and cost-effectively integrated into a modern digital rights management architecture **(column 3, lines 46-49 of Van Wie).**

c. *Referring to claims 10, 15:*

i. These claims have limitations that are similar to those of claims 1 and 6, thus they are rejected with the same rationale applied against claims 1 and 6 above.

d. *Referring to claim 19:*

i. This claim has limitations that is similar to those of claim 6, thus it is rejected with the same rationale applied against claim 6 above.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hagen et al (US 6,182,030), in view of Taubman (US 6,778,709 B1), in view of Maertens (US 5,727,036), and further in view of Van Wie et al (US 6,240,185 B1).

a. *Referring to claim 14:*

i. The combination of teaching between Hagen, Taubman, and Maertens teaches the claimed subject matter, however, they are silent about data stored on data carier. Van Wie teaches:

(1) For example, it is generally possible for someone to make an analog recording of program material initially delivered in digital form. Some analog recordings based on digital originals are of quite good quality. For example, a Digital Versatile Disk ("DVD") player may convert a movie from digital to analog format

and provide the analog signal to a high quality analog home VCR. The home VCR records the analog signal. A consumer now has a high quality analog copy of the original digital property. A person could re-record the analog signal on a DVD-R (a Digital Versatile Disk appliance and media supporting both read and write operations). This recording will in many circumstances have substantial quality--and would no longer be subject to "pay per view" or other digital rights management controls associated with the digital form of the same content **(column 2, lines 37-51 of Van Wie).**

ii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the combination of teaching between Hagen, Taubman, and Maertens with the teaching of Van Wie since analog formats will be with us for a long time to come, rightsholders such as film studios, video rental and distribution companies, music studios and distributors, and other value chain participants would very much like to have significantly better rights management capabilities for analog film, video, sound recordings and other content. Solving this problem generally requires a way to securely associate rights management information with the content being protected **(column 2, lines 52-60 of Van Wie).**

iii. The ordinary skilled person would have been motivated to:

(1) have modified the combination of teaching between Hagen, Taubman, and Maertens with the teaching of Van Wie because persistent association of the commerce and/or rights management controls with content from one end of a distribution system to the other--regardless of the number and types of transformations between signaling formats (for example, analog to digital, and digital to analog) **(column 4, lines 1-6 of Van Wie).**

Allowable Subject Matter

10. Claims 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhnga (Tanya) Truong whose telephone number is 571-272-3858.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached at 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Thanhnga B. Truong

TBT
June 19, 2006